

## **TITLE 14. Fish and Game Commission**

### **Notice of Proposed Changes in Regulations**

**NOTICE IS HEREBY GIVEN** that the Fish and Game Commission (Commission), pursuant to the authority vested by sections 200, 202, 203.1, 205(c), 219, 220, 1590, 1591, 2860, 2861, 6750 and 10502.6 of the Fish and Game Code, and sections 36725(a) and 36725(e) of the Public Resources Code; and to implement, interpret or make specific sections 200, 202, 203.1, 205(c), 219, 220, 1580, 1583, 2861, 5521, 6653, 8420(e) and 8500 of the Fish and Game Code, and sections 36700(e), 36710(e), 36725(a) and 36725(e) of the Public Resources Code, proposes to amend Section 632, Title 14, California Code of Regulations, relating to Marine Protected Areas.

#### **Informative Digest/Policy Statement Overview**

The Marine Life Management Act (MLMA, Stats. 1998, ch. 1052) created a broad programmatic framework for managing fisheries through a variety of conservation measures, including Marine Protected Areas (MPAs). The Marine Life Protection Act (MLPA, Stats. 1999, ch. 1015) established a programmatic framework for designating such MPAs in the form of a statewide network. AB 2800 (Stats. 2000, ch. 385) enacted the Marine Managed Areas Improvement Act (MMAIA), among other things, to standardize the designation of Marine Managed Areas (MMAs), which include MPAs. The overriding goal of these acts is to ensure the conservation, sustainable use, and restoration of California's marine resources. Unlike previous laws, which focused on individual species, the acts focus on maintaining the health of marine ecosystems and biodiversity in order to sustain resources.

The proposed regulation is intended to meet the goals described in the MLPA. These goals address an overall concept of ecosystem-based management and the intent to improve upon California's existing array of marine protected areas (MPAs). The MLPA specifically requires that the Department of Fish and Game prepare a master plan and the Commission adopt regulations based on the plan that achieve the MLPA goals. These goals are:

- To protect the natural diversity and abundance of marine life, and the structure, function, and integrity of marine ecosystems.
- To help sustain, conserve, and protect marine life populations, including those of economic value, and rebuild those that are depleted.
- To improve recreational, educational, and study opportunities provided by marine ecosystems that are subject to minimal human disturbance, and to manage these uses in a manner consistent with protecting biodiversity.
- To protect marine natural heritage, including protection of representative and unique marine life habitats in California waters for their intrinsic value.
- To ensure that California's MPAs have clearly defined objectives, effective management measures, and adequate enforcement, and are based on sound scientific guidelines.
- To ensure that the State's MPAs are designed and managed, to the extent possible, as a network.

Important in developing the proposed regulation was the consideration that the central coast MPAs form a component of a statewide network. By definition in the MLPA, a network is applied to a biogeographical region. The Master Plan Framework for MPAs adopted by the Commission recognizes two biogeographical regions in California, with a boundary at Pt. Conception. The biological network concept calls for connectivity between MPAs through adult movements and larval transport of the species most likely to benefit from establishing MPAs. This includes marine plants, sedentary fishes and invertebrates, and species which are not highly mobile or migratory. This approach is consistent with the guidance provided in the MLPA [Fish and Game Code Section 2853 (b)(6)]. Networks may also be connected through consistency in the method of establishment, goals, objectives, and management and enforcement measures.

The proposed regulation establishes a network component of MPAs designed to include all representative central coast habitats and major oceanic conditions. Unique and critical habitats were considered separately to guarantee both representation and protection.

From an ecological perspective, the proposed regulation creates a network component of MPAs consistent with the goals of the MLPA. From an economic and social perspective, the proposed regulation attempts to minimize potential negative socio-economic impacts and optimize potential positive socio-economic impacts for all users, to the extent possible.

Existing regulations (the no-project alternative) provide for 12 MPAs and one special closure covering an area of approximately 43 square miles, which represents approximately 3.8 percent of state waters within the central coast region. Of this, only one fifth of the area is within no-take state marine reserves covering approximately 7.5 square miles or approximately 0.7 percent of state waters within the central coast region.

The recommended set of MPAs, along with each alternative, includes state marine parks. Because the Fish and Game Commission does not have legislated authority to establish new state marine parks, the proposed regulation designates recommended parks as state marine conservation areas but maintains the recommended restrictions on take and prohibits commercial take in these areas. A later regulatory process, promulgated by the State Park and Recreation Commission, will change the designation of these areas to state marine parks.

In reviewing Section 632, Title 14, the Department found a few typographical errors and inconsistencies in terminology that are corrected in the proposed regulatory change. These changes are neither substantial, nor do they change the existing restrictions. They serve to clarify the existing regulations for greater ease of enforcement and public understanding. In the proposed change, the term "offshore" has been consistently replaced with "seaward of mean lower low water"; where appropriate the phrase "straight lines connecting the following points in the order listed" has been added to the boundary descriptions; and scientific (Latin) names of species have been added (where appropriate) to lists of common names. An existing State Park Unit, the Point Lobos State Reserve, lies within the proposed Point Lobos State Marine Reserve. The proposed regulation clarifies that restrictions on access within the existing State Reserve will not extend into the area proposed in the expanded State Marine Reserve.

Proposed Regulation - The proposed regulation includes a total of 29 MPAs for the central coast region (Table 1 and Figure 1). Eight existing MPAs are included and have been expanded or, in the case of Pacific Grove SMCA and Carmel Bay SMCA, split into two new MPAs. Although the proposed regulation contains 19 new MPAs, five are directly adjacent to existing areas and can be considered further expansion of the area. In these five cases, the additional

expansion is a conservation area or a park with some allowed take. Thus, the proposed regulation includes 14 MPAs that are in areas previously not designated as MPAs.

Table 1. Proposed regulation for marine protected areas in the central coast, including proposed allowed take and Science Advisory Team (SAT) assigned level of protection. Areas arranged geographically from north to south.

MPA Name	Proposed Allowed Take	SAT level of protection <sup>1</sup>
Año Nuevo SMR	No-Take	SMR
Greyhound Rock SMCA*	Recreational finfish by hook and line from shore only and recreational and commercial giant kelp ( <i>Macrocystis pyrifera</i> ) by hand, salmon, and squid	SMCA Low
Natural Bridges SMR*	No-Take	SMR
Elkhorn Slough SMR	No-Take	SMR
Elkhorn Slough SMCA (SMP)* <sup>2</sup>	Recreational finfish by hook and line and clams in area adjacent to DFG wildlife area in west.	SMP low
Moro Cojo Slough SMR*	No-Take	SMR
Soquel Canyon SMCA*	Pelagic finfish <sup>3</sup>	SMCA high
Portuguese Ledge SMCA*	Pelagic finfish <sup>3</sup>	SMCA high
Edward F. Ricketts SMCA*	Recreational finfish by hook and line, and commercial take of kelp by hand north of 36° 38.83' North Latitude NOTE: Sub-Options are provide for the time of day and location where recreational fishing is allowed in this MPA	SMCA low
Lovers Point SMR	No-Take	SMR
Pacific Grove Marine Gardens SMCA	Recreational finfish and commercial kelp by hand	SMCA low
Asilomar SMR	No-Take	SMR
Carmel Pinnacles SMR	No-Take	SMR
Carmel Bay SMCA	Recreational finfish and commercial kelp by hand	SMCA low
Point Lobos SMR	No-Take	SMR
Point Lobos SMCA*	Recreational and commercial salmon, albacore, and spot prawn	SMCA moderate
Point Sur SMR*	No-Take	SMR
Point Sur SMCA*	Recreational and commercial salmon and albacore	SMCA high
Big Creek SMCA*	Recreational and commercial salmon, albacore, and spot prawn west of line approximating 25 ftms	SMCA moderate
Big Creek SMR	No-Take	SMR
Piedras Blancas SMR*	No-Take	SMR
Piedras Blancas SMCA*	Recreational and commercial salmon and albacore	SMCA high
Cambria SMCA (SMP)* <sup>2</sup>	All recreational take NOTE: Sub-Options are provided for the southern and northern boundaries of this MPA	SMP low

MPA Name	Proposed Allowed Take	SAT level of protection <sup>1</sup>
Cambria SMR*	No-Take NOTE: Sub-Options are provided for the northern boundary of this MPA	SMR
Morro Bay SMRMA*	No-Take in South. Recreational finfish and commercial bait fish receiving, and commercial aquaculture by permit in north. Waterfowl hunting under DFG regulations in entire area.	SMCA low/high
Morro Bay SMR*	No-Take	SMR
Point Buchon SMR*	No-Take	SMR
Point Buchon SMCA*	Recreational and commercial salmon and albacore	SMCA high
Vandenberg SMR	No-Take	SMR

\* New MPAs that are not direct expansion of an existing area.

<sup>1</sup> In order to analyze the differences between no-take reserves and limited take conservation areas and parks, the Science Advisory Team developed a protection level ranking described in the Master Plan.

<sup>2</sup> These areas will initially be designated as state marine conservation areas, though their regulations allow later change to state marine parks by the State Park and Recreation Commission.

<sup>3</sup> Pelagic Finfish are defined as: northern anchovy (*Engraulis mordax*), barracudas (*Sphyraena spp.*), billfishes\* (family Istiophoridae), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasii*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus spp.*), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias spp.*), swordfish (*Xiphias gladius*), tunas (family Scombridae), and yellowtail (*Seriola lalandi*). \*Marlin is not allowed for commercial take.

Figure 1. Marine protected areas in the proposed regulation.



SMCA = state marine conservation area      SMP = state marine park  
SMR = state marine reserve      SMRMA = state marine recreational management area

The proposed regulation includes MPAs covering an area of approximately 204 square miles, representing approximately 17.7 percent of state waters within the central coast region. Of this, less than half the area is within no-take state marine reserves covering approximately 97 square miles or approximately 8.4 percent of state waters within the central coast region (Figure 3). The remaining areas are primarily state marine conservation areas. Two of these SMCAs (Elkhorn Slough and Cambria) are recommended for later change to state marine parks and have restrictions on take which would allow this later designation. Many of the SMCAs allow the take of either all pelagic finfish (defined above) or salmon and albacore and were considered by the SAT to offer high ecosystem protection (Figure 4). In some state marine conservation areas take of other species such as squid, kelp, and spot prawn are also allowed. With a few exceptions, the state marine conservation areas protect benthic fishes and invertebrates most likely to benefit from area protection.

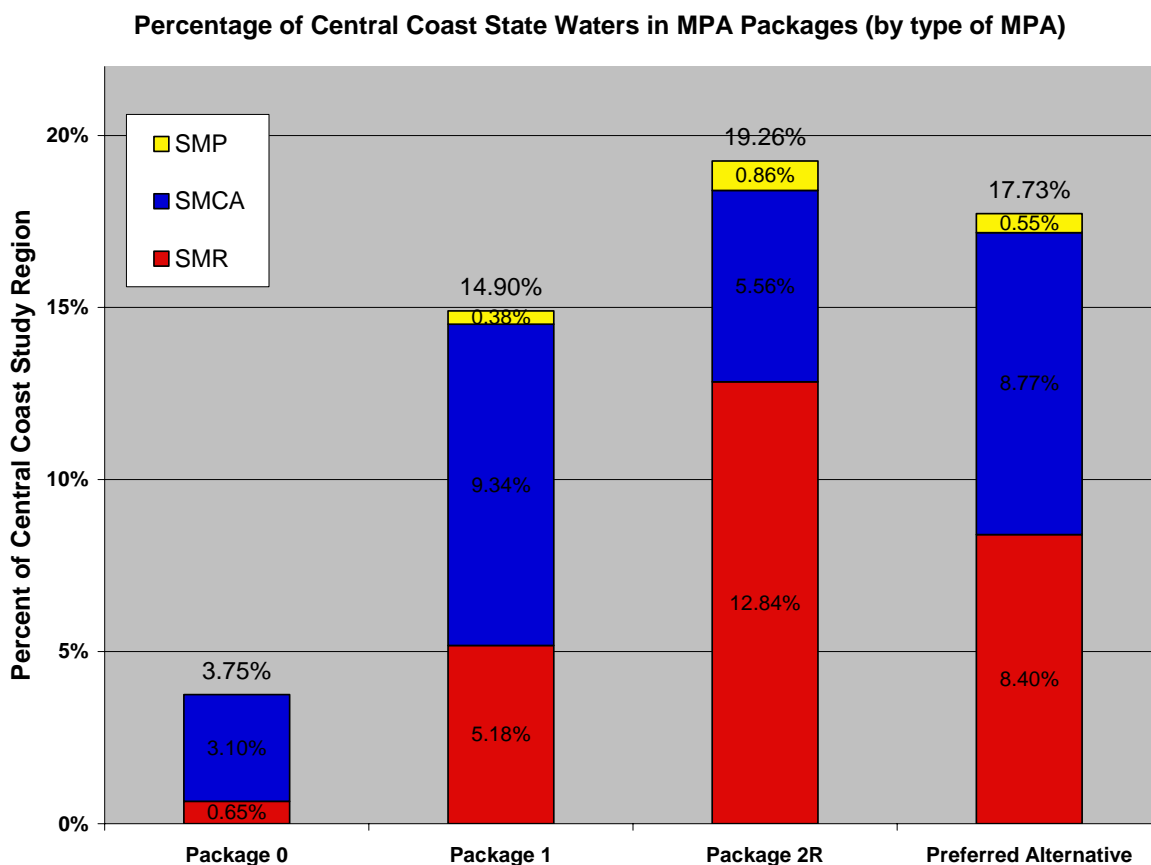


Figure 3. Percent of the central coast study region included in the proposed regulation as compared to existing MPAs (Package 0) and alternative proposals (Package 1 and 2R). SMP = state marine park, SMCA = state marine conservation area, and SMR = state marine reserve. Note that one state recreational management area (Morro Bay) is included in the calculations as part SMR and part SMCA based on its relative level of protection.

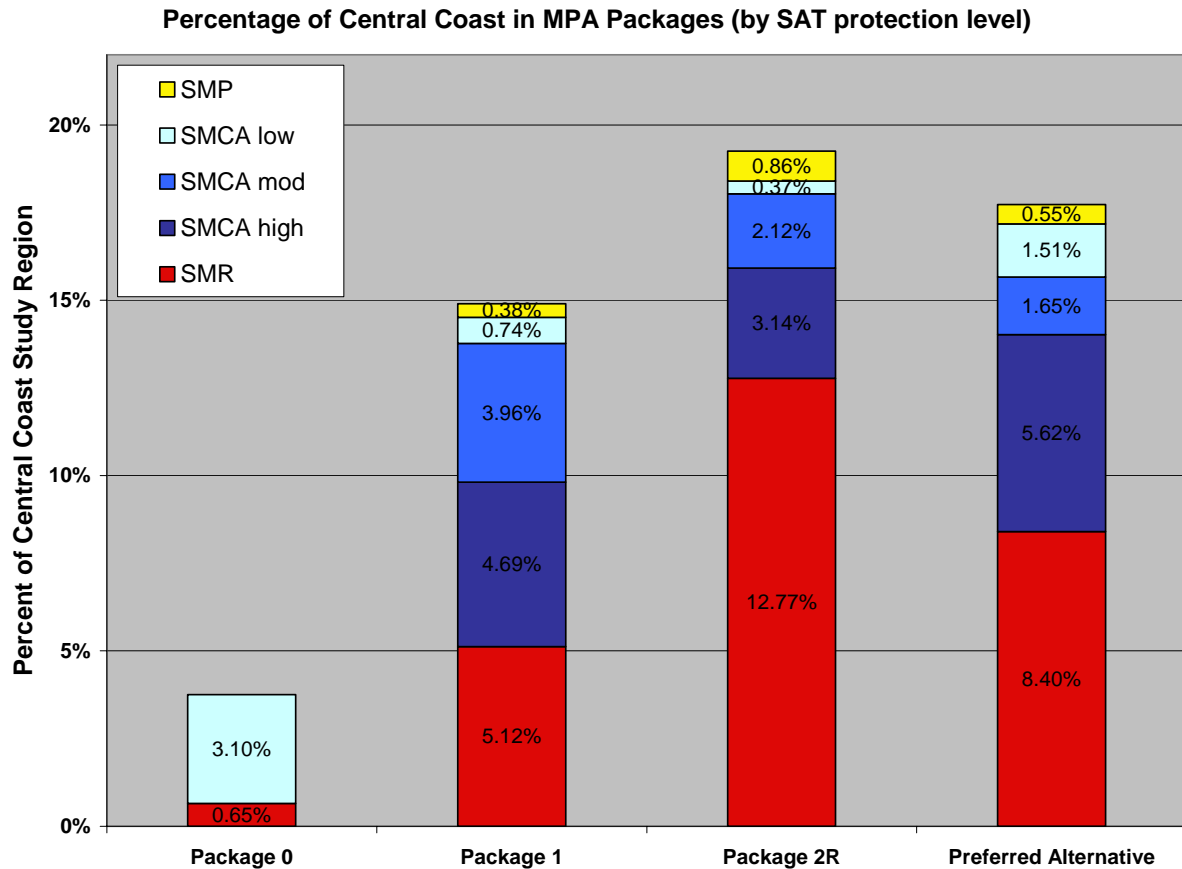


Figure 4. Percent of the central coast study region included in the proposed regulation as compared to existing MPAs (Package 0) and alternative proposals (Package 1 and 2R). SMP = state marine park, SMCA = state marine conservation area, and SMR = state marine reserve. Level of protection is noted as defined by the Science Advisory Team in the Master Plan. Note that one state recreational management area (Morro Bay) is included in the calculations as part SMR and part SMCA based on its relative level of protection.

Alternative 1 – This is the Central Coast Regional Stakeholders Group (CCRSRG) Package 1, developed primarily by constituents representing recreational and commercial fishing interests along the central coast. It consists of 29 MPAs covering an area of approximately 171 square miles, which represents approximately 14.9 percent of state waters within the central coast region (Table 2). Of this, over one third of the area is within no-take state marine reserves covering approximately 60 square miles or approximately 5.2 percent of state waters within the central coast region (Figure 3). The Department clarified certain proposed regulations for specific MPAs with the Package 1 proponents and included these in the proposed regulations.

Table 2. Alternative 1 proposal for marine protected areas in the central coast, including proposed allowed take and Science Advisory Team (SAT) assigned level of protection. Areas arranged geographically from north to south.

<b>MPA Name</b>	<b>Proposed Allowed Take</b>	<b>SAT level of protection<sup>1</sup></b>
Año Nuevo SMR	No-Take	SMR
Greyhound Rock SMCA	Recreational and commercial take of pelagic finfish <sup>2</sup> , squid, Dungeness crab, and salmon. Salmon may not be taken shallower than 25 fathoms.	SMCA Moderate
Greyhound Rock SMR	No-Take	SMR
Elkhorn Slough SMR	No-Take	SMR
Moro Cojo Estuary SMR	No-Take	SMR
Monterey Submarine Canyon No Bottom Contact SMCA	Pelagic finfish <sup>2</sup> and squid	SMCA high
Ed Ricketts SMCA	Recreational finfish by hook and line, and commercial take of kelp by hand north of 36° 38.83' North Latitude.	SMCA low
Hopkins SMR	No-Take	SMR
Pacific Grove-Monterey SMCA	Recreational finfish, Dungeness crab, and squid. Commercial Dungeness crab, salmon, pelagic finfish <sup>2</sup> , squid, and kelp.	SMCA low
Carmel Pinnacles SMR	No-Take	SMR
Carmel Bay SMCA	Recreational finfish and commercial kelp and squid	SMCA low
Point Lobos SMR	No-Take	SMR
Point Lobos SMCA	Recreational and commercial salmon and commercial spot prawns	SMCA moderate
Point Sur Deep Reef SMCA	Pelagic Finfish <sup>2</sup>	SMCA high
Julia Pfeiffer Burns Offshore SMR	No-Take	SMR
Julia Pfeiffer Burns SMR	No-Take	SMR
Julia Pfeiffer Burns Offshore SMCA	Salmon and spot prawn	SMCA moderate
Big Creek SMR	No-Take	SMR
Alder Creek SMR	No-Take	SMR
Alder Creek SMCA	Pelagic Finfish <sup>2</sup>	SMCA high
Point Piedras Blancas SMR	No-Take	SMR
Cambria SMCA (SMP) <sup>3</sup>	All recreational take	SMP low
Morro Bay Harbor SMCA	Recreational take, commercial bait fish receiving, and commercial aquaculture by permit.	SMCA low
Morro Bay South SMRMA	No-Take except recreational hunting of waterfowl unless otherwise prohibited	SMR
Point Buchon SMR	No-Take	SMR
Point Buchon SMCA	Recreational and commercial salmon	SMCA high
Diablo Canyon Security Zone SMCA	No-Take	SMCA high



MPA Name	Proposed Allowed Take	SAT level of protection <sup>1</sup>
Vandenberg SMR	No-Take	SMR
Vandenberg Danger Zone 4 SMCA	Recreational and commercial salmon and crabs	SMCA moderate

<sup>1</sup> In order to analyze the differences between no-take reserves and limited take conservation areas and parks, the Science Advisory Team developed a protection level ranking described in the Master Plan.

<sup>2</sup> Pelagic Finfish are defined as: northern anchovy (*Engraulis mordax*), barracudas (*Sphyrna spp.*), billfishes\* (family Istiophoridae), dolphinfish (*Coryphaena hippurus*), Pacific herring (*Clupea pallasii*), jack mackerel (*Trachurus symmetricus*), Pacific mackerel (*Scomber japonicus*), salmon (*Oncorhynchus spp.*), Pacific sardine (*Sardinops sagax*), blue shark (*Prionace glauca*), salmon shark (*Lamna ditropis*), shortfin mako shark (*Isurus oxyrinchus*), thresher sharks (*Alopias spp.*), swordfish (*Xiphias gladius*), tunas (family Scombridae), and yellowtail (*Seriola lalandi*). \*Marlin is not allowed for commercial take.

<sup>3</sup> These areas will initially be designated as state marine conservation areas, though their regulations allow later change to state marine parks by the State Park and Recreation Commission.

**Alternative 2** – This is the CCRSG Package 2R, developed primarily by constituents representing nonconsumptive interests along the central coast, and modified slightly by the Blue Ribbon Task Force. It consists of 30 MPAs covering an area of approximately 221 square miles, which represents approximately 19.3 percent of state waters within the central coast region (Table 3). Of this, more than two thirds of the area is within no-take state marine reserves covering approximately 148 square miles or approximately 12.8 percent of state waters within the central coast region (Figure 3). The Department clarified certain proposed regulations for specific MPAs with the Package 2R proponents and included these in the proposed regulations.

Table 3. Alternative 2 proposal for marine protected areas in the central coast, including proposed allowed take and Science Advisory Team (SAT) assigned level of protection. Areas arranged geographically from north to south.

MPA Name	Proposed Allowed Take	SAT level of protection <sup>1</sup>
Año Nuevo SMR	No-Take	SMR
Baldwin to Natural Bridges SMR	No-Take	SMR
Elkhorn Slough SMR	No-Take	SMR
Moro Cojo Estuary SMR	No-Take	SMR
Soquel Canyon SMCA	Salmon and albacore	SMCA high
Portuguese Ledge SMR	No-Take	SMR
Edward C. Cooper SMR	No-Take	SMR
Ed Ricketts SMCA	November 1 through the end of February, the commercial take of kelp north of 36° 36.83' N. lat. by hand only. Not more than 15 tons of kelp may be harvested from the portion of Administrative Kelp Bed 220 within the Ed Ricketts State Marine Conservation Area in the open time period.	SMCA moderate
Hopkins SMR	No-Take	SMR
Pacific Grove SMCA	Finfish may be taken recreationally in the area between the seaward extension of Esplanade Street and boundary of the Hopkins State	SMCA low

<b>MPA Name</b>	<b>Proposed Allowed Take</b>	<b>SAT level of protection<sup>1</sup></b>
	Marine Reserve by hook and line or spear. Take is prohibited by use of poke-pole gear. Take is prohibited for any competition involving two or more persons in which persons are ranked, or winners are determined, based on size, weight, number of species, type of species, or number of fish taken by means of spearfishing. Commercial take prohibited except kelp harvesting allowed by hand harvest with restrictions to limit take approximately to existing levels.	
Asilomar SMR	No-Take	SMR
Carmel Pinnacles SMR	No-Take	SMR
Carmel Bay SMCA	Recreational finfish by hook and line or spear except poke-pole gear is prohibited. Take is prohibited for any competition involving two or more persons in which persons are ranked, or winners are determined, based on size, weight, number of species, type of species, or number of fish taken by means of spearfishing. Commercial take of kelp by hand.	SMCA low
Point Lobos SMR	No-Take	SMR
Point Lobos SMCA	Recreational and commercial salmon, albacore, and spot prawn	SMCA moderate
Point Sur SMR	No-Take	SMR
Julia Pfeiffer Burns SMR	No-Take	SMR
Big Creek SMCA	Recreational and commercial salmon, albacore, and spot prawn deeper than 50 fathoms	SMCA moderate
Big Creek SMR	No-Take	SMR
Piedras Blancas SMR	No-Take	SMR
Cambria SMCA (SMP) <sup>2</sup>	All recreational take	SMP low
Ken Norris SMR	No-Take	SMR
Estero Bluff SMR	No-Take	SMR
Morro Bay SMCA	Recreational take and commercial receiving of finfish for bait and permitted aquaculture of oysters.	SMCA low
Morro Bay SMRMA	No-Take. Waterfowl hunting under DFG regulations is allowed.	SMCA high
Morro Bay East SMR	No-Take	SMR
Point Buchon SMR	No-Take	SMR
Point Buchon SMCA	Recreational and commercial salmon and albacore	SMCA high
Purisima Point SMR	No-Take	SMR
Point Arguello SMR	No-Take	SMR

<sup>1</sup> In order to analyze the differences between no-take reserves and limited take conservation areas and parks, the Science Advisory Team developed a protection level ranking described in the Master Plan.

<sup>2</sup> These areas will initially be designated as state marine conservation areas, though their regulations allow later change to state marine parks by the State Park and Recreation Commission.

**NOTICE IS GIVEN** that any person interested may present statements, orally or in writing, relevant to this action at a hearing to be held at the Santa Monica Library, Martin Luther King, Jr., Auditorium, 601 Santa Monica Boulevard, Santa Monica, California, on Friday, December 8, 2006 at 8:30 a.m., or as soon thereafter as the matter may be heard.

**NOTICE IS ALSO GIVEN** that any person interested may present statements, orally or in writing, relevant to this action at a hearing to be held in February 2007. The exact date, time and location of this meeting have not yet been determined. When this information is available, a continuation notice will be sent to interested and affected parties. The continuation notice will also be published in the Regulatory Notice Register.

**NOTICE IS FURTHER GIVEN** that any person interested may present statements, orally or in writing, relevant to this action at a hearing to be held in March 2007. The exact date, time and location of this meeting have not yet been determined. When this information is available, a continuation notice will be sent to interested and affected parties. The continuation notice will also be published in the Regulatory Notice Register. It is requested, but not required, that written comments be submitted on or before February 23, 2007 at the address given below, or by fax at (916) 653-5040, or by e-mail to [FGC@fgc.ca.gov](mailto:FGC@fgc.ca.gov). All comments must be received no later than the date of the March 2007 meeting. If you would like copies of any modifications to this proposal, please include your name and mailing address.

The regulations as proposed in ~~strikeout~~-underline format, as well as an initial statement of reasons, including environmental considerations and all information upon which the proposal is based (rulemaking file), are on file and available for public review from the agency representative, John Carlson, Jr., Executive Director, Fish and Game Commission, 1416 Ninth Street, Box 944209, Sacramento, California 94244-2090, phone (916) 653-4899. Please direct requests for the above mentioned documents and inquiries concerning the regulatory process to John Carlson, Jr., or Sherrie Koell at the preceding address or phone number.

**Mr. Gary Stacey, Regional Manager, Marine Region, Department of Fish and Game, phone (562) 342-7108, has been designated to respond to questions on the substance of the proposed regulations.** Copies of the Initial Statement of Reasons, including the regulatory language, may be obtained from the address above. Notice of the proposed action shall be posted on the Fish and Game Commission website at <http://www.fgc.ca.gov>.

#### Availability of Modified Text

If the regulations adopted by the Commission differ from but are sufficiently related to the action proposed, they will be available to the public for at least 15 days prior to the date of adoption. Circumstances beyond the control of the Commission (e.g., timing of Federal regulation adoption, timing of resource data collection, timelines do not allow, etc.) or changes made to be responsive to public recommendation and comments during the regulatory process may preclude full compliance with the 15-day comment period, and the Commission will exercise its powers under Section 202 of the Fish and Game Code. Regulations adopted pursuant to this section are not subject to the time periods for adoption, amendment or repeal of regulations prescribed in Sections 11343.4, 11346.4 and 11346.8 of the Government Code. Any person interested may obtain a copy of said regulations prior to the date of adoption by contacting the agency representative named herein.

If the regulatory proposal is adopted, the final statement of reasons may be obtained from the address above when it has been received from the agency program staff.

### Impact of Regulatory Action

The potential for significant statewide adverse economic impacts that might result from the proposed regulatory action has been assessed, and the following initial determinations relative to the required statutory categories have been made:

- (a) Significant Statewide Adverse Economic Impact Directly Affecting Business, Including the Ability of California Businesses to Compete with Businesses in Other States:

Each alternative may have negative short-term impacts on commercial and recreational fishing businesses. The impacts presented here do not represent a complete socioeconomic impact analysis, but rather what is generally referred to as a Step 1 analysis or “maximum potential loss.” This analysis simply sums up the activity that currently takes place within a given alternative and translates these activities into corresponding economic values. Maximum potential loss does not take into account other management strategies/regulations and human behavioral changes, such as moving to other areas or changing fishing gear, that may mitigate, offset, or make matters better or worse. In addition, maximum potential loss does not consider possible future benefits.

The estimates of maximum potential impact shown here rely on the survey work and subsequent geographic information system (GIS) data analysis conducted by Ecotrust and reported in various documents to the Blue Ribbon Task Force. Ecotrust interviewed fishermen to determine both location of fishing activities and the relative importance of each location. Wilen and Abbott (2006) combined Ecotrust’s importance indices with cost share information from secondary sources to measure the maximum potential impacts of prospective closures on expected net economic values from commercial fishing. Wilen and Abbott’s economic impact analysis included alternatives 1 and 2, along with other alternatives presented to the Commission. Once the Commission selected a preferred alternative, the methodology used to determine potential impacts for alternatives 1 and 2 were applied to the Proposed Regulation to develop an estimate. The estimates of the maximum potential annual losses for the three alternatives considered here (in real 2005 dollars) are approximately: \$670,000 (Alternative 1); \$1,260,000 (Alternative 2); and \$1,010,000 (Proposed Regulation) (Table 5). These are relative to average annual real 1999-2004 baseline gross revenues of approximately \$13,600,000 and net economic values of about \$8,800,000. They represent maximum potential percentage reductions in net pre-MPA economic values of: 7.5 percent (Alternative 1); 14.2 percent (Alternative 2); and 11.5 percent (Proposed Regulation) (Table 6).

It should be noted, however, that due to the methodology and need to maintain confidentiality of individual fishermen’s financial data, the average impacts across fisheries may not be representative of the true maximum potential impact to an individual. In fisheries where there are few participants whose fishing grounds do not overlap (such as the spot prawn fishery) the numbers represented here may underestimate the maximum potential impact to individuals.

Table 5. Estimated annual maximum potential net economic value losses<sup>1</sup> relative to base scenario.

<b>Fishery</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Proposed Regulation</b>
<b>Anchovy</b>	\$13,227	\$25,182	\$20,095
<b>Cabazon</b>	\$42,918	\$81,234	\$68,159
<b>Dungeness crab</b>	\$7,708	\$21,977	\$24,529
<b>Deep Nearshore Rockfish</b>	\$84,528	\$116,874	\$114,618
<b>Halibut</b>	\$13,492	\$20,992	\$20,112
<b>Kelp Greenling</b>	\$3,563	\$6,496	\$5,570
<b>Lingcod</b>	\$4,497	\$8,770	\$7,412
<b>Mackerel</b>	\$744	\$1,426	\$1,236
<b>Rockfish Nearshore</b>	\$73,302	\$131,432	\$115,028
<b>Rockfish Shelf</b>	\$7,109	\$12,074	\$7,881
<b>Rockfish Slope</b>	\$24,365	\$42,098	\$37,066
<b>Rock Crab</b>	\$9,966	\$11,055	\$11,321
<b>Salmon</b>	\$46,005	\$138,554	\$81,249
<b>Sardine</b>	\$39,830	\$84,297	\$63,698
<b>Sablefish</b>	\$40,032	\$136,567	\$139,908
<b>White seabass</b>	\$43,240	\$38,730	\$46,752
<b>Surfperch</b>	\$558	\$1,034	\$976
<b>Spot Prawn</b>	\$57,415	\$122,086	\$97,953
<b>Squid</b>	\$155,327	\$259,298	\$151,299
<b>Total</b>	<b>\$667,826</b>	<b>\$1,260,176</b>	<b>\$1,014,862</b>

<sup>1</sup>Losses are calculated in 2005 dollars.

Table 6. Estimated annual maximum potential net value losses in percentage terms

<b>Fishery</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Proposed Regulation</b>
<b>Anchovy</b>	5.7%	10.9%	8.7%
<b>Cabazon</b>	14.6%	27.7%	23.3%
<b>Dungeness crab</b>	4.5%	12.8%	14.3%
<b>Deep Nearshore Rockfish</b>	16.5%	22.8%	22.4%
<b>Halibut</b>	6.4%	10.0%	9.6%
<b>Kelp Greenling</b>	13.1%	23.9%	20.5%
<b>Lingcod</b>	13.1%	25.6%	21.6%
<b>Mackerel</b>	5.4%	10.3%	8.9%
<b>Rockfish Nearshore</b>	14.3%	25.6%	22.4%
<b>Rockfish Shelf</b>	7.5%	12.7%	8.3%
<b>Rockfish Slope</b>	14.3%	24.8%	21.8%
<b>Rock Crab</b>	12.0%	13.3%	13.6%
<b>Salmon</b>	3.4%	10.3%	6.0%
<b>Sardine</b>	5.2%	11.1%	8.4%
<b>Sablefish</b>	6.8%	23.3%	23.9%

<b>White seabass</b>	9.1%	8.2%	9.9%
<b>Surfperch</b>	2.7%	5.1%	4.8%
<b>Spot Prawn</b>	7.3%	15.5%	12.4%
<b>Squid</b>	6.2%	10.3%	6.0%
<b>Total</b>	<b>7.5%</b>	<b>14.2%</b>	<b>11.5%</b>

Wilen and Abbott also computed rough estimates of secondary impacts on the fish processing industry and multiplier effects on the regional economy. These are proportional to the primary impacts described above (Table 7).

Table 7. Summary of estimated maximum potential economic impacts (annual real 2005 dollars) expanded by secondary and multiplier effects.

	<b>Primary Impacts</b>	<b>Secondary Impacts</b>	<b>Induced Impacts</b>	<b>Total Impacts</b>
<b>Alternative 1</b>	\$667,826	\$256,856	\$1,155,852	\$2,080,534
<b>Alternative 2</b>	\$1,260,175	\$484,683	\$2,181,072	\$3,925,929
<b>Proposed Regulation</b>	\$1,014,861	\$390,331	\$1,756,491	\$3,161,683

Ecotrust also analyzed the maximum potential loss to recreational fishing area in terms of percentage of the total fishing grounds and percentage of the number of fishing trips in a given year. Ecotrust only used recreational skiff fishing data for these analyses and did not include Commercial Passenger Fishing Vessel (CPFV or “party boat”) spatial data. Similar to the commercial estimates of maximum potential loss, these estimates assume all fishing activity that previously occurred in a closed area is “lost” and not replaced by movement to another location. Estimates were made for the two primary recreational fisheries in the central coast region, rockfish and salmon. None of the alternatives had greater than a 15 percent impact to total fishing grounds for rockfish or greater than a 5 percent impact to total fishing grounds for salmon and none had greater than a 30 percent impact to fishing trips for rockfish or greater than a 5 percent impact to fishing trips for salmon (Table 8). While not economic losses, if realized, the loss in recreational fishing activity could lead to decreases in revenues to recreational fishing dependent businesses.

Table 8. Maximum potential losses to private skiff recreational fishing grounds and fishing trips for rockfish and salmon.

	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Proposed Regulation</b>
<b>Percent Recreational Salmon Grounds</b>	0.01%	2.41%	1.13%
<b>Percent of Salmon Fishing Trips</b>	0.14%	2.55%	1.90%
<b>Percent Recreational Rockfish Grounds</b>	5.48%	13.53%	11.98%
<b>Percent of Rockfish Fishing Trips</b>	16.10%	28.25%	21.84%

In the long term, the potential negative impacts are expected to be balanced by the positive impacts of sustainable fisheries, non-consumptive benefits, and ecosystem function in the reserve areas. In addition, potential benefits may be realized through adult fish spillover to areas adjacent to marine reserves and state marine conservation areas which prohibit bottom fishing for finfish, as well as through transport to distant sites.

The Commission has made an initial determination that the amendment of this regulation may have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states.

The Commission has considered proposed alternatives that would lessen any adverse economic impact on business and invites you to submit alternative proposals. Submissions may include the following considerations:

- (i) the establishment of differing compliance or reporting requirements or timetables which take into account the resources available to businesses;
  - (ii) consolidation or simplification of compliance and reporting requirements for businesses;
  - (iii) the use of performance standards rather than prescriptive standards; or
  - (iv) exemption or partial exemption from the regulatory requirements for business.
- (b) Impact on the Creation or Elimination of Jobs within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California:

Each alternative has potential impacts on the creation and elimination of jobs related to commercial and recreational fishing and non-consumptive activities. Estimates of the numbers of jobs eliminated as a direct result of the proposed action are difficult to determine. Commercial fishing operations are generally small businesses employing few individuals and, like all small businesses are subject to failure for a variety of causes. Additionally, the long-term intent of the proposed action is to increase sustainability in fish stocks and subsequently the long-term viability of these same small businesses. Jobs related to the non-consumptive tourism and recreational industries would be expected to increase over time by some unknown factor based on expected improvements in site quality and increased visitation to certain locations.

- (c) Cost Impacts on a Representative Private Person or Business:

The Commission is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

- (d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State: None.

Any additional costs to State agencies for enforcement, monitoring, and management of MPAs are difficult to estimate and depend on not only the impacts of the proposed regulation but also other regulations and processes. Current cooperative efforts with the Monterey Bay National Marine Sanctuary provide funding for some existing costs and are expected to increase with the adoption of this regulation. Changes in enforcement, monitoring, and management will increase costs to the Department of Fish and Game as compared to current efforts.

Based upon an analysis of costs of similar programs, the estimated total costs for implementing the central coast MPAs ranges from \$1.8 to \$7.4 million, with an average

of \$4.6 million. These costs would increase as new study regions are designated and become operational. Funding was provided to the Department of Fish and Game in the 2006/2007 Governor's budget to cover the implementation costs of the central coast MPAs.

- (e) Nondiscretionary Costs/Savings to Local Agencies: None.
- (f) Programs Mandated on Local Agencies or School Districts: None.
- (g) Costs Imposed on any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4: None.
- (h) Effect on Housing Costs: None.

#### Effect on Small Business

It has been determined that the adoption of these regulations may affect small business.

#### Consideration of Alternatives

The Commission must determine that no reasonable alternative considered by the Commission, or that has otherwise been identified and brought to the attention of the Commission, would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.

FISH AND GAME COMMISSION

Dated: October 31, 2006

John Carlson, Jr.  
Executive Director